



STATE OF COLORADO

CLASS SERIES DESCRIPTION

July 1, 2000

ELECTRICAL TRADES

D6A1TX TO D6A3XX

DESCRIPTION OF OCCUPATIONAL WORK

This class series uses three levels in the Labor, Trades, and Crafts Occupational Group and describes work in the electrical occupation. Positions install, alter, maintain, and repair electrical systems, electrical fixtures, apparatus, and control equipment. Positions plan new or modified installations, provide access for future maintenance, make the installation, connect the power source, test circuits, prepare sketches showing location of wiring and equipment, and repair faulty equipment or systems. This work involves reading and interpreting blueprints, sketches, schematic diagrams and specifications; estimating material and labor requirements; and ordering equipment and supplies. State licensure in the trade is required for the Electrical Trades II class and above.

Some positions perform a combination of electronic and electrical work in the installation, calibration, maintenance, and repair of traffic signals, control devices and equipment; and, arrange for necessary permits and rights from cities, counties, railroads, and utility companies. Positions with a primary focus of repairing and maintaining computerized electronic equipment and systems should be placed in other appropriate classes.

INDEX: Electrical Trades I begins on this page, Electrical Trades II begins on page 2, and Electrical Trades III begins on page 4.

ELECTRICAL TRADES I

D6A1TX

CONCEPT OF CLASS

This class describes electrical maintenance work and/or assisting skilled licensed electricians in the installation, alteration, maintenance, and repair of electrical systems, appliances, devices, and/or traffic signals. It involves assisting higher-level fully-operational electrical trade workers by performing routine and limited electrical trades tasks. The work at this level is clearly defined where positions follow established work procedures and operate within standard guidelines and alternatives which are known and any deviation from such requires prior approval. Some assignments do not move beyond this level.

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FACTORS

Allocation must be based on meeting all of the four factors as described below.

Decision Making -- The decisions regularly made are at the defined level, as described here. Within limits prescribed by the operation, choices involve selecting alternatives that affect the manner and speed with which tasks are carried out. These choices do not affect the standards or results of the operation itself because there is typically only one correct way to carry out the operation. These alternatives include independent choice of such things as priority and personal preference for organizing and processing the work, proper tools or equipment, speed, and appropriate steps in the operation to apply. By nature, the data needed to make decisions can be numerous but are clear and understandable so logic is needed to apply the prescribed alternative. Positions can be taught what to do to carry out assignments and any deviation in the manner in which the work is performed does not change the end result of the operation.

Complexity -- The nature of, and need for, analysis and judgment is prescribed, as described here. Positions apply established, standard guidelines which cover work situations and alternatives. Action taken is based on learned, specific guidelines that permit little deviation or change as the task is repeated. Any alternatives to choose from are clearly right or wrong at each step.

Purpose of Contact -- Regular work contacts with others outside the supervisory chain, regardless of the method of communication, are for the purpose of exchanging or collecting information with contacts. This involves giving learned information that is readily understandable by the recipient or collecting factual information in order to solve factual problems, errors, or complaints.

Line/Staff Authority -- The direct field of influence the work of a position has on the organization is as an individual contributor. The individual contributor may explain work processes and train others. The individual contributor may serve as a resource or guide by advising others on how to use processes within a system or as a member of a collaborative problem-solving team. This level may include positions performing supervisory elements that do not fully meet the criteria for the next level in this factor.

ELECTRICAL TRADES II

D6A2XX

CONCEPT OF CLASS

This class describes the full-operating electrician. The work involves the installation, alteration, maintenance, and repair of electrical systems, electrical fixtures, apparatus, and/or traffic signal and control equipment. It includes planning new, or modifying existing installations, providing access for future maintenance, making installations, connecting the power source, testing circuits, preparing sketches showing location of wiring and equipment, and repairing faulty equipment or systems. Work is assigned by means of verbal or written orders and is carried out by the position in accordance with standard practices of the electrical trade. Positions in this class may direct the work

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of others. This class differs from the Electrical Trades I on Decision Making and Complexity, and by the requirement of a license.

FACTORS

Allocation must be based on meeting all of the four factors as described below.

Decision Making -- The decisions regularly made are at the operational level, as described here. Within limits set by the specific process, choices involve deciding what operation is required to carry out the process. This includes determining how the operation will be completed. By nature, data needed to make decisions are numerous and variable so reasoning is needed to develop the practical course of action within the established process. Choices are within a range of specified, acceptable standards, alternatives, and technical practices. For example, positions examine the particular problem or assignment and determine the extent of damage, estimate the time and cost to construct or to restore it, and, based on the information and data available, make the repair, build the item, and/or decide to seek help before proceeding.

Complexity -- The nature of, and need for, analysis and judgment is patterned, as described here. Positions study available information such as equipment manufacturer's manuals, service bulletins, layout sketches, blueprints, appropriate state and local government codes and specifications, trade-specific manuals and practices, agency guidelines, and determine how the fixture or equipment should perform and how the various parts relate to the specific assignment in order to repair the problem. Guidelines in the form of written manuals exist for most situations. Additionally, verbal instructions are given from supervisory personnel. Judgment is needed in locating and selecting the most appropriate of these guidelines which may change for varying circumstances as the task is repeated. This selection and interpretation of guidelines involves choosing from alternatives where most may be correct but one is better than another depending on the given circumstances of the situation.

Purpose of Contact -- Regular work contacts with others outside the supervisory chain, regardless of the method of communication, are for the purpose of exchanging or collecting information with contacts. This involves giving learned information that is readily understandable by the recipient or collecting factual information in order to solve factual problems, errors, or complaints. For example, positions avoid duplication of work by communicating work assignments with co-workers. They explain the work or problem to the customer or building tenant and exchange factual data in the course of completing the work assignment.

Line/Staff Authority -- The direct field of influence the work of a position has on the organization is as an individual contributor. The individual contributor may explain work processes and train others. The individual contributor may serve as a resource or guide by advising others on how to use processes within a system or as a member of a collaborative problem-solving team. This level may include positions performing supervisory elements that do not fully meet the criteria for the next level in this factor.

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ELECTRICAL TRADES III

D6A3XX

CONCEPT OF CLASS

This class describes the supervisory level. Supervisory positions are accountable for actions and decisions that impact the pay, status, and tenure of three or more full-time equivalent positions. Supervisors coordinate the work with the other supervisory trades positions and ensure that the work performed is done in accordance with appropriate plans, specifications, and/or agency standards. Positions in this class also perform the duties of the lower-level class in the series. This class differs from the Electrical Trades II on Line/Staff Authority.

FACTORS

Allocation must be based on meeting all of the four factors as described below.

Decision Making -- The decisions regularly made are at the operational level, as described here. Within limits set by the specific process, choices involve deciding what operation is required to carry out the process. This includes determining how the operation will be completed. By nature, data needed to make decisions are numerous and variable so reasoning is needed to develop the practical course of action within the established process. Choices are within a range of specified, acceptable standards, alternatives, and technical practices. For example, positions examine the particular problem or assignment, determine the extent of damage, estimate the time and cost to construct or to restore it and based on the information and data available make the repair, build the item, and/or decide to seek help before proceeding.

Complexity -- The nature of, and need for, analysis and judgment is patterned, as described here. Positions study available information such as equipment manufacturer's manuals, service bulletins, layout sketches, and blueprints, appropriate state and local government codes, specifications, trade-specific manuals and practices, and agency guidelines and determine how the fixture or equipment should perform and how the various parts relate to the specific assignment in order to reach a practical solution for repairing the problem. Guidelines in the form of written manuals exist for most situations. Additionally, verbal instructions are given from supervisory personnel. Judgment is needed in locating and selecting the most appropriate of these guidelines which may change for varying circumstances as the task is repeated. This selection and interpretation of guidelines involves choosing from alternatives where most may be correct but one is better than another depending on the given circumstances of the situation.

Purpose of Contact -- Regular work contacts with others outside the supervisory chain, regardless of the method of communication, are for the purpose of exchanging or collecting information with contacts. This involves giving learned information that is readily understandable by the recipient or collecting factual information in order to solve factual problems, errors, or complaints. For example, positions avoid duplication of work by communicating work assignments with co-workers. They explain the work or problem to the customer or building tenant and exchange factual data in the course of completing the work assignment.

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Line/Staff Authority -- The direct field of influence the work of a position has on the organization is as a unit supervisor. The unit supervisor is accountable, including signature authority, for actions and decisions that directly impact the pay, status, and tenure of three or more full-time equivalent positions. At least one of the subordinate positions must be in the same series or at a comparable conceptual level. The elements of formal supervision must include providing documentation to support recommended corrective and disciplinary actions, signing performance plans and appraisals, and resolving informal grievances. Positions start the hiring process, interview applicants, and recommend hire, promotion, or transfer.

ENTRANCE REQUIREMENTS

Minimum entry requirements and general competencies for classes in this series are contained in the State of Colorado Department of Personnel web site.

For purposes of the Americans with Disabilities Act, the essential functions of specific positions are identified in the position description questionnaires and job analyses.

CLASS SERIES HISTORY

Effective 7/1/00 (DLF). Electrical Trades Assistant (D2D1), Electrician (D2E1-2), Traffic Signal Electrician I (D2S1) abolished as part of the LTC consolidation study. Draft published 3/31/99, proposed 5/24/99, and final 7/1/99.

Effective 7/1/99 (DLF). LTC consolidation study consolidated Traffic Signal Technician (D2R1), and Traffic Signal Electrician II (D2S2) series. Draft published 3/31/99 and proposed 5/24/99.

Revised 10/1/94 (LDS). Revised wording in description of occupational work and class concept of Electrical Trades Assistant (D2D1).

Effective 9/1/93 (LDS). Job Evaluation System Revision project. Published proposed 6/1/93.

Revised 1/1/89. Changed in-grade hire step on Electrician (A4828X).

Revised 12/1/86. Changed class code, title, nature of work, entrance requirements, and pay differential on Electrician (Maintenance) (A4826), Electrician (A4828), Supervising Electrician (A4830), and Traffic Signal Technician (A4584), Traffic Signal Electrician (A4585), and Traffic Signal Supervisor (A4586).

Revised 8/1/87. Changed necessary special requirements on Supervising Electrician (A4830).

Revised 7/1/80. Changed class title, nature of work, entrance requirements, and pay differential on Traffic Signal Technician (A4584). Changed relationship, grade, title, nature of work, entrance requirements, and pay differential on Traffic Signal Electrician (A4585), and Traffic Signal Supervisor (A4586).

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Created 1/1/75. Electrician (Maintenance)(A4826), Electrician (A4828), Supervising Electrician (A4830), Traffic Signal Technician (A4584), Traffic Signal Electrician (A4585), and Traffic Signal Supervisor (A4586).

SUMMARY OF FACTOR RATINGS

Class Level	Decision Making	Complexity	Purpose of Contact	Line/Staff Authority
Electrical Trades I	Defined	Prescribed	Exchange	Indiv Contributor
Electrical Trades II	Operational	Patterned	Exchange	Indiv. Contributor
Electrical Trades III	Operational	Patterned	Exchange	Unit Supervisor

ISSUING AUTHORITY: Colorado Department of Personnel/General Support Services